

WHAT IS CLAIMED IS:

1. A method for removing a resist pattern, comprising:
forming a resist pattern of a positive resist composition containing a
5 photosensitizer;
irradiating the resist pattern with a light having a photosensitive wavelength
region of the photosensitizer after forming said resist pattern; and
removing the resist pattern by using a resist stripper.
- 10 2. A method for manufacturing a semiconductor device, comprising:
forming a resist pattern of a positive resist composition containing a
photosensitizer on a material to be processed;
irradiating the resist pattern with a light having a photosensitive wavelength
region of the photosensitizer after forming said resist pattern;
15 performing an etching process on the material to be processed by using the
resist pattern as a mask after irradiating the resist pattern with the light;
performing a resist removing process on the resist pattern; and
thereby forming said semiconductor device.
- 20 3. A method for manufacturing a semiconductor device, comprising:
forming a resist pattern of a positive resist composition containing a
photosensitizer on a material to be processed;
performing an etching process on the material to be processed by using the resist
pattern as a mask, after forming said resist pattern;
25 irradiating the resist pattern with a light having a photosensitive
wavelength region of the photosensitizer after performing the etching process on
the material to be processed;
performing a resist removing process on the resist pattern; and
thereby forming said semiconductor device.

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4. A method for manufacturing a semiconductor device, comprising:
forming a resist pattern of a positive resist composition containing a
photosensitizer on a material to be processed;
performing an etching process on the material to be processed by using the resist
5 pattern as a mask, after forming said resist pattern;
performing a resist removing process on the resist pattern;
irradiating the resist pattern with a light having a photosensitive wavelength
region of the photosensitizer;
treating an unprocessed portion of the positive resist pattern by using a developer
10 after irradiating the resist pattern with the light having the photosensitive wavelength
region of the photosensitizer; and
thereby forming said semiconductor device.

5. A method for manufacturing a semiconductor device according to claim 1,
15 wherein the positive resist composition containing the photosensitizer is a
diazonaphthoquinone (DNQ)-novolac resin type; and
wherein the photosensitizer is diazonaphthoquinone (DNQ).

6. A method for manufacturing a semiconductor device according to claim 2,
20 wherein the positive resist composition containing the photosensitizer is a
diazonaphthoquinone (DNQ)-novolac resin type; and
wherein the photosensitizer is diazonaphthoquinone (DNQ).

7. A method for manufacturing a semiconductor device according to claim 3,
25 wherein the positive resist composition containing the photosensitizer is a
diazonaphthoquinone (DNQ)-novolac resin type; and
wherein the photosensitizer is diazonaphthoquinone (DNQ).

8. A method for manufacturing a semiconductor device according to claim 4,
30 wherein the positive resist composition containing the photosensitizer is a

diazonaphthoquinone (DNQ)-novolac resin type; and

wherein the photosensitizer is diazonaphthoquinone (DNQ).

9. A method for manufacturing a semiconductor device according to claim 2,
5 wherein the material to be processed is a metal film to form an electrode of said semiconductor.

10. A method for manufacturing a semiconductor device according to claim 3,
wherein the material to be processed is a metal film to form an electrode of said
10 semiconductor.

11. A method for manufacturing a semiconductor device according to claim 4,
wherein the material to be processed is a metal film to form an electrode of said
semiconductor.

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12. A method for manufacturing a semiconductor device comprising:
forming a semiconductor film over an insulating surface;
forming a gate insulating film over the semiconductor film;
forming a first layer gate electrode film over the gate insulating film;
20 forming a second-layer gate electrode film over the first-layer gate electrode
film;

forming a resist pattern of a positive resist composition containing a
photosensitizer, the resist pattern being formed over the second-layer gate electrode film;
irradiating the resist pattern with light within a range of photosensitive
25 wavelength of the photosensitizer;

performing a first dry etching processing for etching the second-layer gate
electrode film to form a second-layer gate electrode;

performing a second dry etching processing for etching the first-layer gate
electrode film to form a first-layer gate electrode;

30 performing a third dry etching processing for etching the first-layer gate

electrode and the second-layer gate electrode; and
removing the resist pattern;
wherein the first-layer gate electrode has a first shape tapered portion and the
second-layer gate electrode has a second shape tapered portion after the third dry etching
5 processing; and
wherein the first-layer gate electrode extends beyond the second-layer gate
electrode after the third dry etching processing.

13. A method for manufacturing a semiconductor device comprising:
10 forming a resist pattern of a positive resist composition containing a
photosensitizer on a laminated metal layer;
irradiating the resist pattern with a light having a photosensitive wavelength
region of the photosensitizer;
removing the resist pattern by using a resist stripper; and
15 thereby forming said semiconductor device.

14. A method for manufacturing a semiconductor device according to claim 13,
further comprising: forming said laminated metal layer over an acrylic resin layer.

20 15. A method for manufacturing a semiconductor device according to claim 13,
wherein said laminated metal layer comprises an aluminum film, a titanium
nitride film, and a titanium film.

16. A method for manufacturing a semiconductor device according to claim 13,
25 an range of an exposure period of time to irradiate the resist pattern with the light having
the photosensitive wavelength region of the photosensitizer is from 1 seconds to 30
seconds.

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